



Battery state of health check (SOCE & Reset)

Recommended tool:

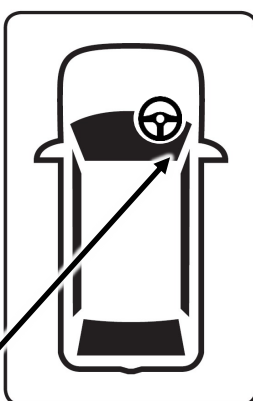
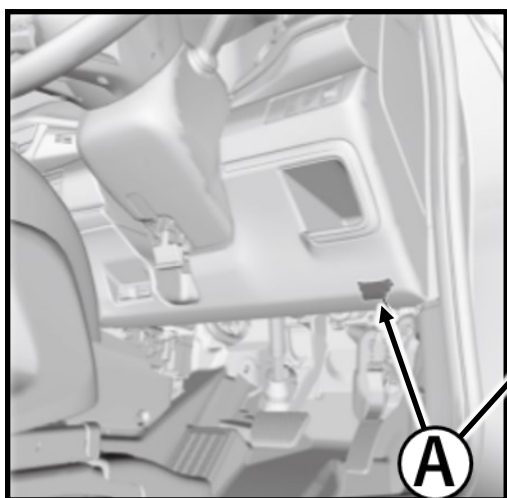
CAN Reader: Vector VN16xx or equivalent tool compliant with ISO 14229-1.

Note: ISO 14229-1 compliance is highly recommended for optimal performance.

Battery in vehicle:

Connect the CAN reader tool to OBD connector.

OBD connection location (A): (RHD shown, LHD is a mirror image)



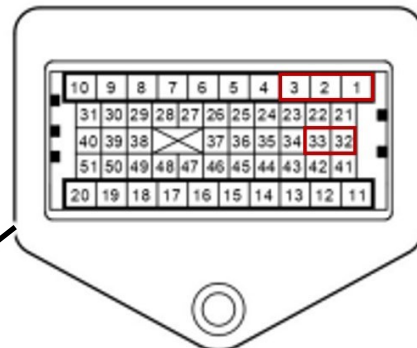
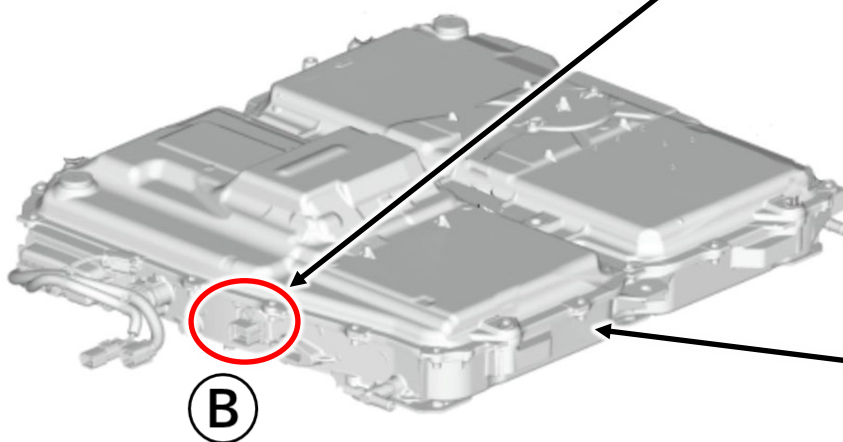
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Pin	Connection
4	Ground / -ve
6	CAN H
14	CAN L
16	12v +ve

Battery without vehicle:

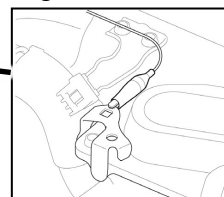
Connect the CAN reader tool to BMS connector (51 pin male).

BMS connector location (B) :



Pin	Connection	Input
1	IG1_OPTION2	12v +ve
2	+B_IGB	12v +ve
3	IGB_RLY_OUT	12v +ve
32	PF-CAN L_H	CAN
33	PF-CAN L_L	CAN

Negative connection



**Method of reading SOCE:**

- ① Send ID:18DBEFF1x DLC:8 「03 22 20 2A AA AA AA AA」 from VN1610 to BAT.
- ② Receive ID:18DAF101x DLC:8 「10 F6 62 20 2A xx xx xx」 from BAT to VN1610.
- ③ Send ID:18DA01F1x DLC:8 「30 00 00 AA AA AA AA AA」 from VN1610 to BAT.
- ④ Receive ID:18DAF101x DLC:8 「21 xx xx xx xx xx xx xx」 from BAT to VN1610.

NOTE: The time between steps 1 and 3 is only 100 m/sec, so it is necessary to create the command in advance.

As shown in the following diagram, the stored data is transmitted in sequence, and the SOCE data can be identified as the last figure before 55 55 55 55 55, which indicates the end of the received data. In this example “FC” indicates SOCE in hexadecimal.

1.5876... CAN 1	18DAF101x	CAN Frame	Rx	8	22	00	00	00	00	00	00	00
1.5879... CAN 1	18DAF101x	CAN Frame	Rx	8	23	00	FC	55	55	55	55	55

- ⑤ Calculate the SOCE value in decimal using the following conversion formula.

SOCE×100/255 example: 252(FCh)×100/255 ÷ 98.82...[%]

Method of software reset:

A: When using \$04

- ① Send ID:18DBEFF1x DLC:8 「01 04 AA AA AA AA AA AA」 from VN1610 to BAT.
- ② Receive ID:18DAF101x DLC:8 「01 44 55 55 55 55 55 55」 from BAT to VN1610.

If the response for step ② is received, the reset is completed.

B: When using \$A4

- ① Send ID:18DBEFF1xDLC:8 「02 A4 10 AA AA AA AA AA」 from VN1610 to BAT.
- ② Receive ID:18DAF101x DLC:8 「02 E4 20 55 55 55 55 55」 from BAT to VN1610.

If the response for step ② is received, the reset is completed.